In the Claims:

1. (Previously Amended) A method for distributed upstream quality of service (QOS) processing in a broadband access system, the method comprising:

measuring a quality of received packets sent by a modem in an upstream channel at an upstream modem termination system;

determining whether the measured quality is within a predetermined range;

reporting an out-of-range quality for the received packets to a network management server; and

modifying operating parameters for the upstream channel in accordance with the measured quality, if an out-of-range quality is reported;

wherein the out-of-range quality reported includes a measured quality above a high quality threshold and is reported at a higher priority than measured qualities below a low quality threshold.

2. (Original) The method of Claim 1, wherein measuring a quality of received packets comprises measuring a signal-to-noise ratio (SNR).

3. (Original) The method of Claim 1, wherein measuring a quality of received packets comprises measuring a bit error rate (BER).

4. (Original) The method of Claim 1, wherein measuring a quality of received packets comprises measuring a Forward Error Correction (FEC) quality measure.

5. (Original) The method of Claim 1, wherein if the quality measure is below a predetermined lower limit for some averaged or weighted averaged value for a series of packets, then the modem ID and the measured quality data of a particular packet or average is reported to the network management server.

6. (Previously Amended) The method of Claim 5, wherein the network management server reassigns the modem to a different downstream channel in the same or overlapping sector, which has a different operating frequency.

7. (Original) The method of Claim 5, wherein the network management server reassigns the modem to a lower order modulation type.

8. (Original) The method of Claim 5, wherein the network management server reassigns the modem to a lower symbol rate.

9. (Original) The method of Claim 5, wherein the network management server reassigns the modem to a more robust Forward Error Correction scheme.

10. (Original) The method of Claim 5, wherein the network management server reassigns the modem to a combination of a different frequency, a lower order modulation type, a lower symbol rate, and a more robust Forward Error Correction scheme.

11. (Original) The method of Claim 1, wherein if the quality measure is above a predetermined upper limit for some averaged or weighted averaged value for a series of packets, then the modem ID and the measured quality data of a particular packet or average is reported to the network management server.

12. (Original) The method of Claim 11, wherein the network management server reassigns the modem to a channel with a higher order modulation.

13. (Original) The method of Claim 11, wherein the network management server reassigns the modem to a different type of modulation.

14. (Original) The method of Claim 11, wherein the network management server reassigns the modem to a faster symbol rate.

15. (Original) The method of Claim 11, wherein the network management server reassigns the modem to a lower Forward Error Correction scheme. (Original)

16. (Original) The method of Claim 11, wherein the network management server reassigns the modem to a channel which has similar parameters but less traffic.

17. (Cancel)

18. (Previously Amended) The method of Claim 21, wherein if the measured quality is below a lower limit, the network management server reassign the modem to a different downstream channel.

19. (Previously Amended) The method of Claim 21, wherein if the measured quality exceeds an upper limit, then the modem sends an exception signal offering to move to a less utilized channel.

20. (Previously Amended) The method of Claim 21, wherein if the measured quality exceeds an upper limit, then the modem sends an exception signal offering to move to a channel with a higher net data rate.

21. (Previously Amended) A method, for distributed downstream quality of service (QOS) processing in a broadband access system, the method comprising:

measuring a quality of received packets in a downstream channel at a modem;

comparing the measured quality with predetermined boundary conditions;

determining whether the measured quality is within the predetermined boundary conditions;

sending an exception to a network management server, if the measured quality is outside the boundary conditions; and

modifying operating parameters for the downstream channel in accordance with the measured quality;

wherein if the measured quality is below a lower boundary condition, the exception is sent with a high priority, and if the measured quality is above a high boundary condition, the exception is sent with a lower priority.

22. (Previously Amended) A method for distributed processing for optimal quality of service (QOS) in a broadband access system, the method comprising:

a method for distributed upstream quality of service (QOS) processing, the method comprising:

measuring a quality of received packets sent by a modem in an upstream channel at an upstream modem termination system;

determining whether the measured quality is within a predetermined range;

reporting an out-of-range quality for the received packets to a network management server; and

modifying operating parameters for the upstream channel in accordance with the measured quality, if an out-of-range quality is reported; and

a method for distributed downstream quality of service (QOS) processing, the method comprising:

measuring a quality of received packets in a downstream channel at a modem;

comparing the measured quality with predetermined boundary conditions;

determining whether the measured quality is within the predetermined boundary conditions;

sending an exception to a network management server, if the measured quality is outside the boundary conditions; and

modifying operating parameters for the downstream channel in accordance with the measured quality;

wherein:

the exception is sent,

at a first priority if the measured quality is below and outside the boundary conditions, and

at a second priority if the measured quality is above and outside the boundary conditions; and

the first priority is higher than the second priority.

23. (Previously Presented) The method according to Claim 21, wherein the method is performed in a broadband wireless access system.

24. (Previously Presented) The method according to Claim 1, wherein the method is performed in a broadband wireless access system.

25. (Previously Presented) The method according to Claim 22, wherein the method is performed in a broadband wireless access system.